Over fifty years ago, Electro-Voice pioneers were hard at work charting new paths in a fledgling industry—developing successful microphones before most people were aware of such devices—developing new markets—advancing technology—being consumer oriented long before it was popular. Electro-Voice is accustomed to being a leader.

Advancing the state-of-the-art of microphone technology has always been a mark of E-V engineering. Basic research brought forth noise-cancelling microphones, cardioid unidirectional microphones that were free of proximity effect and off-axis coloration. A breakthrough that helped dynamic microphones "turn professional" was the Acoustaloy diaphragm, a technique that produced diaphragms which were impervious to damage from shock, temperature and humidity extremes. A mechanical-nesting design concept nested internal parts one within the other to produce a nearly solid mechanical structure that is highly resistant to physical shock. Diaphragms were protected with magnetic shields. Hum pickup was reduced radically by special coils, shields, and steel cases. Acoustifoam windscreens stopped noise but not the natural sound. Specially developed rubber-jacketed microphone cable became the industry standard for flexibility and strength. A simple but effective floor mount for a microphone was developed which effectively increased gain before feedback and eliminated the coloration of the usual "foottight" microphone installation. E-V became the first American company to produce electret condenser microphones for professional broadcast and recording studios. These designs—for the first time—combined uncompromised acoustic performance with traditional E-V reliability and ruggedness. Over seventy-three patents have been granted Electro-Voice microphone engineers, testimony to their technical achievements. Achievements recognized by broadcast, government, military, aviation and space authorities—even an Academy Award from the Academy of Motion Picture Arts and Sciences.

Technical Help—the great need when buying and applying microphones. Electro-Voice people excel in providing the kind of information you need—how our microphones interact with your acoustic environment. Your Electro-Voice dealer can help, the Electro-Voice factory man can help—they are as near as your telephone.

Customer Oriented Service—a basic attitude that spans every facet of Electro-Voice from development of products that solve sound problems, to world-wide distribution of products to make them readily accessible, to service of products in the field or at the factory.

"Loan For Trial"—a policy available at most Electro-Voice dealers which permits you to try our professional microphones and accessories at your own facilities on a no-obligation basis. If you decide not to purchase, just return the merchandise to your dealer. Repair Service, in an industry where delays and expensive down-time are the rule rather than the exception, Electro-Voice prides itself in having the best repair service in the industry. Average turn-around time for microphones is less than ten days. And we are happy to provide super-fast special handling on request. Estimates of out-of-warranty repair costs will be supplied, if requested. For repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107.

Warranty: Electro-Voice backs up their microphones with the only unconditional warranty in the business: for two years we will replace or repair your professional microphone, when returned to Electro-Voice for service, at no charge—no matter what caused the damage! We can do this because we build these microphones to meet our standards for performance, ruggedness and long-term stability. We accept nothing less, and if you're a professional, buying a professional quality microphone, you shouldn't either.

When you purchase an Electro-Voice microphone you not only get a quality product and fine performance, you also get investment protection. It's the only way E-V knows how to do business, it's the reason you can rely upon E-V. For over 50 years, pioneering microphone technology, leading the industry. The complete warranty statement is on the inside back cover.
### 1 Intended Use.

Choose the microphone that fits the application. Whether your need is for a microphone for broadcasting, recording, public address or sound reinforcement this chart will direct you to the proper pages in this catalog.

Start at the top of the chart from the heading which calls out your intended microphone use. Answer the questions in each box and the chart will indicate the type of microphone recommended for your application.

<table>
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<th>Broadcasting?</th>
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**Close Microphone**

**Feedback Problem?**  
Yes No

- Single-D Cardioids page 10
- Variable-D Cardioids pages 4, 6, 8
- Omni-directionals pages 12, 14

**Distant Microphone**

**Feedback Problem?**  
Yes No

- Single-D Cardioids page 10
- Cardioid Direct统治s pages 16
- Variable-D Cardioids pages 4, 6, 8
- Omni-directionals pages 12, 14

### 2 Microphone Pickup Patterns.

There are two basic pickup patterns for microphones - omnidirectional (omnidirectional), and directional.

Omnidirectional microphones pick up sound from all directions and are best for most applications, if there are no environmental problems (noise, feedback from speakers, etc.). Omnidirectional microphones offer the widest, smoothest response for a given price, and lower sensitivity to breath, wind, and handling noises.

Directional microphones pick up sounds primarily from one direction or area and should be used where there are environmental noise problems, where maximum gain-before-feedback is required, or where there are great distances from microphone to sound source. And certain directional mikes provide bass boost when used close. Electro-Voice offers four basic types of directional microphone patterns - cardioid, super-cardioid, hyper-cardioid, and Cardioline - which offer increasingly directional pickup. The typical pickup patterns for all types of E-V microphones are shown below:

- Omni
- Cardioid
- Super-cardioid
- Hyper-cardioid
- Cardioline
3 Range of Sounds
All sounds are comprised of a range of frequencies. The chart shows the frequency ranges of various instruments. When choosing a microphone, be sure its frequency response is wide enough to pick up the sounds you need to reproduce with no perceptible change in quality.

4 Bass Boosting Proximity Effect.
Cardioid microphones are of two basic types: Single-D and Variable-D.

**Single-D.** This type of cardioid microphone has one rear port opening at the back of the diaphragm. At close working distances, the bass frequency response is boosted greatly which is called proximity effect. The advantage is an enriched big bass sound preferred by many vocalists. The Single-D microphone also provides for excellent gain-before-feedback.

**Variable-D.** An Electro-Voice patented exclusive. Variable-D was designed to eliminate the proximity effect of cardioid microphones and to improve clarity. Variable-D microphones have multiple ports to the rear of the diaphragm, some of which take the form of a long slotted tube. This technique maintains a consistent bass frequency response as the working distance is varied. Thus, the Variable-D microphone provides a more natural sound. Other advantages are reduced breath noise and shock sensitivity. Also, compared to so-called “multi-port” directional microphones, E-V’s Variable-D design provides far more uniform frequency response at all angles of incidence.

5 Electrical Considerations.
Electro-Voice professional microphones are balanced low impedance (usually 150 ohms nominal), a necessity for low noise pickup and long cable runs without high-frequency loss. E-V low-impedance microphones should be used with inputs rated for low-impedance microphones. The actual input impedance of such inputs is typically not 150 ohms, but can range up to 2,000 ohms or higher. These higher load impedances have no effect on microphone frequency response or distortion. The output level of E-V low-impedance microphones may be increased for use with conventional unbalanced high-impedance inputs by using the 502C or 502CP in-line matching transformers. You should select a microphone whose output level is compatible with your input equipment. This is usually not a difficulty because most inputs are designed around the relatively narrow range of output levels available. However, when extremely high or low sound pressure levels are anticipated, the specific microphone output level and the characteristics of the microphone input can be critical if noise or input overload is to be avoided.

The output reference level for E-V low-impedance microphones is 0 dB = 1 milliwatt/10 dynes/cm². The output level specification tells how far the output (in dB) is below 1 milliwatt delivered to a load impedance equal to the microphone’s internal impedance, with a sound pressure level at the microphone diaphragm of 94 dB (10 dynes/cm²). Measurements are made at 250 Hz in an anechoic (echoless) environment.

For a more detailed discussion of microphone impedance, loading, and output level, write for a copy of “Layman’s Guide to Microphone Specifications.”

6 Mechanical Requirements.
E-V manufactures a full line of microphone accessories to fit your needs. These include mounting hardware, shock mounts, matching transformers, power supplies, desk stands, and windscreens. See pages 22 and 23. Descriptions of microphones in this catalog list those accessories which are included with each model.
RE20
Variable-D™
Dynamic Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

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4
The RE20 was created especially for critical recording, broadcast, and sound reinforcement applications which require response that extends to the frequency extremes. Combined with a subtle elevation of response in the 5,000 to 15,000 Hz range, the RE20 provides performance heretofore available only from the most expensive condenser microphones. However, unlike many condenser microphones, the RE20’s dynamic element provides undistorted output at the high sound pressure levels found in up-close vocal and instrument miking (in excess of 160 dB). And its Variable-D design frees it of any bass-boosting proximity effect. A high-performance integral blast filter surrounds all acoustic openings for unusually complete freedom from vocal “P-pops.” A bass roll-off switch adapts the RE20 when flat low-frequency response would be detrimental. Transducer parts are nested and shock mounted to reduce vibration transfer.

The sound of the RE20 has made it one of the most coveted, unique microphones in the world. The RE20 has become a recording studio standard in Japan and the microphone of choice for many eminent vocalists throughout the world.

**Frequency Response:** 45-18,000 Hz
**Impedance:** 150 ohms (changeable to 50 or 250 ohms)
**Output:** -57 dB
**Diaphragm:** EV Acoustialloy
**Case:** Steel
**Finish:** Fawn beige micromatte
**Size:**
- 216.7 mm (8 5/32") long
- 54.4 mm (2 1/4") max. diameter
- 49.2 mm (1 7/8") body diameter
**Weight:** 737 grams (1 lb, 10 oz)
**Cable:** 4.6 m (15') Switchcraft A3F conn.
**Included:** Stand adapter, metal carrying case
**Optional Accessories:** Shown on pages 22 & 23
RE18
Shock-Mounted
Variable-D°
Dynamic Cardioid
The RE18 is a direct descendant of the popular RE15 and RE16 microphones. While maintaining the accurate frequency response characteristics and super-cardioid polar pattern of the RE15, the RE18 has added an integral shock mount for even better performance. The superb shock isolation sharply reduces handling and cord noise, and in sound reinforcement systems effectively silences the transmission of mechanical stand and lectern noises.

A refined, low-profile blast filter makes possible close hand-held use without "P-pops." The Memraflex grille screen resists dents and keeps its shape. A "hum-buck" coil rejects hum in the presence of heavy alternating magnetic fields from stage lighting and power transformers. The silver tone beige finish is perfect for TV cameras.

Unlike "multi-port" directional microphones, E-V's exclusive Variable-D design insures uniform frequency response at all angles for uncolored off-axis pickup. The super-cardioid polar response of the RE18 rejects more random unwanted noise than the standard cardioid pattern. Two nulls, each at 150° off axis instead of one at 180° off axis, make the RE18 superb for those applications where high ambient noise rejection is mandatory. An additional advantage of the Variable-D design is the absence of bass-boosting proximity effect for those situations where frequency response needs to be uniform regardless of the mike-to-sound-source working distance.

**Frequency Response:** 80-15,000 Hz
**Impedance:** 150 ohms
**Output:** –57 dB
**Diaphragm:** EV Acoustalloy
**Case:** Steel
**Finish:** Silver tone beige
**Size:** 178mm (7") long; 41mm (1 5/16") max. diameter; 19mm (3/4") shank diameter
**Weight:** 230 grams (8 oz)
**Cable:** 4.6m (15') Switchcraft A3F conn.
**Included:** 312B stand adapter, protective vinyl carrying pouch

Optional Accessories: Shown on pages 22 & 23
RE15
Variable-D
Dynamic Super-Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

RE16
Variable-D
Dynamic Super-Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

RE10
Variable-D
Dynamic Super-Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

RE11
Variable-D
Dynamic Super-Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division
Literally born in a Hollywood TV studio, the performance and reliability of the RE15 have made it the workhorse directional microphone for broadcast and high-quality sound reinforcement. Two nulls at 150° off axis provide greater average rejection over the microphone's rear hemisphere than a traditional single-null cardioid pattern, particularly useful on the boom and in many on-stage and recording studio applications. Frequency response is unusually independent of the angular location of sound. Essentially flat frequency response in the 150-15,000 Hz range preserves the essential character of most sound sources, while a rolled response below 150 Hz (-10 dB at 50 Hz) eliminates the detrimental effects of common low-frequency noise. Use with the optional 411 floor-mount "mike mouse" for excellent on-stage pickup. The Memraflex grille screen resists denting.

**RE15 Specifications:**
- Frequency Response: 80-15,000 Hz
- Impedance: 150 ohms
- Output: -56 dB
- Diaphragm: EV Acoustalloy
- Case: Steel
- Finish: Fawn beige micomatte
- Size: 167 mm (6 5/6") long, 35 mm (1 1/4") diameter, 19 mm (3/4") shank diameter
- Weight: 170 grams (6 oz)
- Cable: 4.6m (15') Switchcraft A3F conn.
- Included: 310A clamp, metal carrying case
- Optional Accessories: Shown on pages 22 & 23

Another professional favorite, the RE16 is like the RE15 except it has a different blast filter. An integral part of the RE16, the blast filter makes possible the closest hand-held use without any "P-pops." In all other respects, the RE16 is like the RE15. Its rugged, mechanically "nested" design is highly resistant to damage. Uniform response, independent of the angular location of sound, and super-cardioid rejection of unwanted sounds at 150 degrees off axis dramatically reduce coloration of off-axis pickup. Like the RE15, it has a "hum-buck" coil to reduce hum an extra 25 dB, a bass roll-off switch, and a Memraflex grille screen to retain its shape.

**RE16 Specifications:**
- Frequency Response: 80-15,000 Hz
- Impedance: 150 ohms
- Hum Pickup Level: -125 dBm (re: 1 gauss field)
- Diaphragm: EV Acoustalloy
- Case: Steel
- Finish: Fawn beige micomatte
- Size: 187 mm (7 3/8") long, 45 mm (1 7/8") max. diameter, 19 mm (3/4") shank diameter
- Weight: 227 grams (8 oz)
- Cable: 4.6m (15') Switchcraft A3F conn.
- Included: 310A clamp, metal carrying case
- Optional Accessories: Shown on pages 22 & 23

A fine, moderate-cost microphone for sound reinforcement, broadcasting, choir pickup and stage work. The RE10 is similar in design to the RE15, but meets requirements where somewhat more unit-to-unit variability is acceptable. It has effective directional control, little off-axis coloration, greatest rejection of unwanted sounds at 150 off axis and a bass roll-off switch. Use with 411 "mike mouse" for phase-interference-free stage pickup.

**RE10 Specifications:**
- Frequency Response: 90-13,000 Hz
- Impedance: 150 ohms
- Output: -56 dB
- Diaphragm: EV Acoustalloy
- Case: Steel
- Finish: Fawn beige micomatte
- Size: 172 mm (6 5/8") long, 35 mm (1 1/4") max. diameter, 19 mm (3/4") shank diameter
- Weight: 170 grams (6 oz)
- Cable: 4.6m (15') Switchcraft A3F conn.
- Included: 310A clamp, metal carrying case
- Optional Accessories: Shown on pages 22 & 23

An excellent microphone for broadcast and quality sound reinforcement, the RE11 is a modestly priced unit with many of the features of the RE16 but where the most precise unit-to-unit matching is not necessary. It has a built-in blast filter, Memraflex grille screen, a high degree of directional control, little off-axis coloration, the greatest rejection of unwanted sounds at 150 off axis and a bass roll-off switch.

**RE11 Specifications:**
- Frequency Response: 90-13,000 Hz
- Impedance: 150 ohms
- Output: -56 dB
- Diaphragm: EV Acoustalloy
- Case: Steel
- Finish: Fawn beige micomatte
- Size: 187 mm (7 3/4") long, 45 mm (1 13/16") max. diameter, 19 mm (3/4") shank diameter
- Weight: 227 grams (8 oz)
- Cable: 4.6m (15') Switchcraft A3F conn.
- Included: 310A clamp, metal carrying case
- Optional Accessories: Shown on pages 22 & 23
CS15P
Phantom Powered
Single-D
Condenser Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

DS35
Single-D
Dynamic Cardioid

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division
The CS15P is a high-performance microphone for those recording, broadcast and sound reinforcement applications that demand a directional polar pattern as well as the wideband frequency response usually avoided in "general use" professional microphones. The distant response of the CS15P has been subtly shaped in a way that has been shown useful in the recording studio. The response is flat over the fundamental portion of the audio spectrum, with a slow roll-off below 100 Hz (~5 dB at 40 Hz) and a slight elevation in the 4,000-15,000 Hz range. Boom-mounted, the CS15P's well controlled cardioid pattern has helped it out-perform a number of more "exotic" designs for "reach" and gain-before-feedback.

Unlike most other condensers, the CS15P is at home in high sound pressure levels (141 dB), so it is appropriate for up-close instrumental and vocal pickup (with the supplied 315A windscreen) where its extended low-frequency response is desired. Used with care, the CS15's bass-boosting proximity effect can be a dramatic tool, providing sonic effects not possible with the more restricted bass response of the typical Single-D dynamic "vocal" mike. Use with 411 " mike mouse" for superb on-stage pickup.

With its traditional E-V turned steel case and mechanically nested parts, the CS15P is every bit as rugged as our dynamic microphones. Phantom power the CS15P with the AC24M AC or BS9 battery power supply. The CS15E element and the PE15 preamplifier which make up the CS15P microphone are interchangeable with other E-V "System C' elements (C015E, CH15E and CL42E) and the SE15A preamplifier. All are available separately.

Frequency Response: 40-18,000 Hz
Impedance: 150 ohms
Output: ~45 dB
Element: Condenser (electret)
Maximum SPL for 1% THD: 141 dB at 1000 Hz, load ~1200 ohms
Equivalent Noise Level: Less than 22 dB SPL, A weighted
Power: Phantom (8-50V)
Case: Steel
Finish: Fawn beige micomatte
Size:
176mm (6 1/2") long
27mm (1 1/8") max. diameter
19mm (3/4") shank diameter
Weight: 227 grams (8 oz)
Cable: 4.6m (15') Switchcraft A3F conn.
Included: 315A windscreen, 312A clamp, metal carrying case
Optional Accessories: Shown on pages 22 & 23

Created especially for the professional entertainer, the DS35 has become a connoisseur's microphone. Its Single-D design emphasizes the low frequencies in up-close, hand-held applications. However, unlike many other popular Single-D microphones, the DS35 boasts extremely linear, extended high-frequency response, a product of its unique diaphragm assembly. An injection molded poly-styrene Volumetric Dome produces piston-like diaphragm motion at all frequencies. The result is uncolored, accurate reproduction of vocal harmonics and the highest gain-before-feedback of any microphone on the market. DS35 performance complements the finest wide-range, low-distortion sound reinforcement systems.

An integral blast filter minimizes "P-pops" and a patented two-stage internal shock mount minimizes handling noise. In addition to conventional head isolation, the mount also incorporates a dashpot pressure feedback system which reduces diaphragm excursion when the head is displaced by mechanical shock. A Memraflex grille screen keeps its shape.

Frequency Response: 60-17,000 Hz
Impedance: 150 ohms
Output: ~60 dB
Diaphragm: EV Acoustalloy® poly-styrene Volumetric Dome
Case: Steel
Finish: Fawn beige micomatte
Size:
184mm (7 1/4") long
48mm (1 15/16") max. diameter
19mm (3/4") shank diameter
Weight: 261 grams (9.2 oz)
Cable: 4.6m (15') Switchcraft A3F conn.
Included: 312A clamp, metal carrying case
Optional Accessories: Shown on pages 22 & 23
CO15P
Phantom Powered Condenser
Omnidirectional

POLAR RESPONSE CURVE
Scale is 5 Decibels Per Division

RE55
Dynamic Omnidirectional

DO54
Dynamic Omnidirectional
The C015P is the finest omnidirectional microphone we manufacture. Its element is used in precision real-time acoustic analyzers. Response extends from below 20 to 20,000 Hz. Unlike typical omnidirectional microphones, the C015P maintains true omnidirectional performance at the highest frequencies. This results from the unusually small 3/8-inch diameter element and a low-diffraction cone-shaped baffle. With response essentially flat at any angle greater than 45 degrees, even distant pickups which contain a large degree of naturally reflected sound have the same “brightness” you’re ears hear. The C015P is also ideal for high-accuracy up-close studio and stage miking because its inherent head design and blast filter make it less susceptible to vocal “P-pops” than any other E-V microphone, with undistorted output at high sound pressure levels (145 dB at 1,000 Hz). The C015E element and the PE15 preamplifier which make up the C015P microphone are interchangeable with other “System C” elements and the SE15A electronics, available separately.

The RE55 has the widest frequency response of all E-V dynamic microphones, 40-20,000 Hz. A classic design, the RE55’s heritage goes back over twenty-five years to the original 655 which changed the broadcast industry’s idea of what a dynamic microphone could do. Essentially flat on axis over its rated range, the RE55’s long-term stability has made it a widely used secondary standard for acoustic measurements. Its flat response and omnidirectional polar pattern have also made it a favorite for spaced-pair stereo recordings of concert music where a sense of the natural acoustic environment is desired and a shaped response is not necessary to solve acoustic problems. The RE55’s freedom from distortion at high sound pressure levels (on the order of 160 dB) make it equally at home for high level up-close miking applications on stage and in the studio. Its long, slim styling also makes it appropriate for a number of hand-held studio and in-the-field applications.

Based on the RE55, the DO54 is a moderately priced microphone with essentially flat response over its rated frequency range of 50-18,000 Hz. It is useful in applications where the RE55 would excel but where the one-third-octave additional response below 50 Hz is not required, or where small microphone-to-microphone variation is acceptable. The DO54 is a favorite with the serious amateur recordist. Also, its slim, short styling—where the connector literally becomes part of the microphone—makes the DO54 a fine hand-held microphone, on stage and on camera. The DO54 is also available in non-glare white (DO54W).
DO56
Shock-Mounted
Dynamic Omnidirectional

RE50
Shockproof
Dynamic Omnidirectional

635A
Dynamic Omnidirectional
The D056 is a shock-mounted omnidirectional microphone for hand-held broadcast and sound reinforcement applications. All handling noises and cord vibration are isolated from the microphone element. Shock isolation is enhanced by having the main acoustic cavity and the diaphragm voice-coil assembly isolated as a unit from the case. Butyl rubber shock rings act as the spring in the isolation system. A capsule case collision is impossible. This "G-factor" margin makes the D056 less susceptible to the bell-like clang heard from other shock-mounted microphones when they are accelerated or decelerated rapidly.

Frequency response extends to 18,000 Hz. A slow roll-off below 200 Hz (-8 dB at 50 Hz), combined with slight emphasis in the 2,000-12,000 Hz range gives the D056 excellent vocal qualities without low-frequency noise interference. A high-density Acoustifoam™ blast filter protects against "P-pops." The steel and aluminum case was chosen for perfect hand-held balance. The Memraflex grille screen bounces back to keep its shape. A slim, attractive silhouette and the silver tone beige finish are ideal for on-camera use.

Frequency Response: 80-18,000 Hz
Impedance: 150 ohms
Output: -61 dB
Diaphragm: EV Acoustalloy®
Case: Steel and aluminum
Finish: Silver tone beige
Size: 159mm (6\14") long; 37mm (1\5132") max. diameter; 19mm (4-4") shank diameter
Weight: 185 grams (6.5 oz)
Cable: 4.6m (15') Switchcraft A3F conn.
Included: 312B stand adapter, protective vinyl carrying pouch
Optional Accessories: Shown on pages 22 & 23

The RE50 was designed expressly for hand-held news-gathering work. It has the same tailored frequency response and high output level as the famous 635A. The RE50's rubber shock-mount "mike-within-a-mike" design achieves a degree of shock isolation never before known in the industry. The construction is also highly resistant to damage from mechanical shock. A built-in windscreen is a super effective "P-pop" filter too. Rugged extruded aluminum case and a Memraflex grille screen allow the RE50 to go anywhere, indoors or out.

Frequency Response: 80-13,000 Hz
Impedance: 150 ohms
Output: -55 dB
Diaphragm: EV Acoustalloy®
Case: Aluminum
Finish: Fawn beige micomatte
Size: 197mm (7\32") long; 49mm (1\16") max. diameter; 25mm (1") shank diameter
Weight: 269 grams (9.12 oz)
Cable: 4.6m (15') Switchcraft A3F conn.
Included: 301A clamp, metal carrying case
Optional Accessories: Shown on pages 22 & 23

The 635A is quite simply the most rugged, durable microphone we manufacture. The 635A's moderately high output level (-55 dB) is appropriate for a broad range of studio and field applications. Its response has been specially shaped for up-close vocals. A slow roll-off below 200 Hz (-8 dB at 50 Hz) with a broad rise of several dB from 2,000-12,000 Hz results in bright yet natural vocal quality without the low-frequency noise pickup problems that can plague microphones with flat low-frequency response.

The sound of the 635A is the standard against which other up-close omnidirectional vocal microphones are compared. A four-stage filter protects the head against "P-pops" and damage from dust and magnetic particles. The 635A can usually be used outdoors without a windscreen. In addition to traditional E-V durability such as a turned steel case and mechanically nested parts, the head is suspended in a firm plastic elastomer surround, which reduces noise generated by external contact and protects the head from severe mechanical shock.

Frequency Response: 80-13,000 Hz
Impedance: 150 ohms
Output: -55 dB
Diaphragm: EV Acoustalloy®
Case: Steel
Finish: Fawn beige micomatte
Size: 151 mm (5\16") long; 36mm (1\16") diameter
Weight: 170 grams (6 oz)
Cable: 4.6m (15') Switchcraft A3F conn.
Included: 312A clamp
Optional Accessories: Shown on pages 22 & 23
CL42S
Cardiline® Condenser
Unidirectional

DL42
Cardiline®
Dynamic Unidirectional

CH15S
Condenser Single-D Hyper-cardioid
The most directional shotgun microphone for its size ever made, the CL42S for the first time combines the best qualities of line and hyper-cardioid patterns. The CL42S reaches farther and rejects more ambient noise than other "shotguns," condenser or dynamic. The CL42S features an exclusive line-bypass port which produces the low-frequency response ideal for boom use while maintaining a hyper-cardioid polar response at low frequencies. Unlike other shotguns which get very narrow at high frequencies, the CL42S retains its high-frequency directivity through a series of diffraction vanes on the line tube. Sibilance is maintained even if the "talent" gets a bit off-mike. The CL42S operates on phantom, A-B standard (Sennheiser), or A-B reverse (Nagra) power. Switching among systems is automatic.

The high output level ( -33 dB) of the CL42S is perfect for long-reach applications. And it comes complete with hanger bracketry and shock mount for boom operation and a screw-in handle for hand-held use. The CL42E element and the SE15A preamplifier in the CL42S system are interchangeable with other "System C" elements and the PE15 preamplifier.

The DL42 is state-of-the-art in super-directional dynamics. "Cardiline" is E-V's patented combination of line and cardioid design. Compared to other "shotguns," the DL42 has more uniform response in the critical mid and high frequencies and much more uniform directivity. Diffraction vanes on the line tube reduce narrowing of the coverage angle at high frequencies, for significantly more constant sound quality under actual studio working conditions where some pickups are bound to be a bit "off-mike." And when other shotguns "go omni" at low frequencies, E-V provides a tighter directional pattern for greater effective reach. The DL42 works at distances up to four times that of conventional omnidirectional microphones. Ideal for use on booms, fishpoles, or hand-held, the DL42 comes complete with boom shock mount and screw-in handle.

The unique CH15S was developed particularly for boom and fishpole use in TV and motion picture studios where the need is great for light weight, small size and high directionality. The complete microphone and shock-mount system weighs just over 10 ounces. The CH15S maintains a uniform hyper-cardioid pattern throughout its entire operating frequency range, with two extreme nulls in excess of 35 dB – at 120° off axis. This creates a tighter frontal pickup pattern than conventional directional microphones, while at the same time providing an absolute minimum of coloration in off-axis sound. Response is essentially flat over the rated frequency range except that preamp response below 200 Hz is carefully contoured to eliminate sub-sonic noise modulation problems that could occur with certain input circuitry as the microphone is "panned." The CH15S uses the same power as the CL42S. The CH15E element and SE15A preamplifier which make up the CH15S microphone are interchangeable with other E-V "System C" elements and the PE15 preamplifier. All are available separately.
CO90 and CO90E
Miniature Condenser Omnidirectional

RE85
Shock-Mounted Miniature Dynamic Omnidirectional

CO85
Condenser Omnidirectional

649B
Miniature Dynamic Omnidirectional
Perfect for today’s broadcasting and wide-range sound reinforcement systems. They are more reliable and more versatile than other condenser lavaliers. The two-conductor cable incorporates two nylon stay cords for high breaking strength. The cable-to-case interface is built to last. If there is an accident, the cable assembly is field replaceable. Both the CO90 and CO90E are tie clasp modules. CO90 has a separate battery/transformer housing and connector with belt clip. The CO90E is for direct interface with a wireless transmitter, miniature recorder, etc. Frequency response is tailored for the lavalier chest position. Excellent performance at the frequency extremes provides a close match to the sound of high-quality hand-held microphones.

Frequency Response: 40-15,000 Hz
Impedance: 150 ohms
Output: -57 dB
Element: Condenser (electret)
Operating Voltage: 1.1-1.8V Battery: Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Case: Metal: brass; electronics: aluminum; battery/transformer housing: steel
Finish: Fawn beige micromatte
Size: 21.6mm (0.85") long, 10.5mm (0.415") max. diameter
Weight: 114 grams (4 oz) complete, less battery; 23 grams (0.8 oz) less battery/transformer housing & belt clip
Cable: Mike to battery housing; 1.83m (6') held microphones. Included: Tie clasp, 385 windscreen, protective pouch, belt clip
Optional Accessories: Shown on pages 22 & 23

Here’s a lavalier microphone that offers professionals in the TV industry great protection from cord and case-conducted mechanical noise. The RE85 has an internally shock-mounted microphone capsule which is “floating” in high-compliance rubber inside the durable steel case. “Slippery” cable and case finishes reduce transmission of mechanical disturbances to the shock mount. Response is tailored for the lavalier chest position.

Frequency Response: 90-10,000 Hz
Impedance: 150 ohms
Output: -61 dB
Diaphragm: EV Acoustalloy®
Case: Steel
Finish: Champagne
Size: 67mm (2½") long, 23mm (9/16") max. diameter
Weight: 229 grams (8 oz)
Cable: 9.14 m (30')
Included: Neck cord, tie clasp, cable belt clip, protective pouch
Optional Accessories: Shown on pages 22 & 23

Where is it? The CO85 will go unnoticed "on camera" because it is small, and is easily disguised as a tie tac, lapel pin, shirt button, brooch, etc. The electronics that hold the microphone in place are concealed. The CO85 is used normally with battery power, but it also may be powered by wireless transmitters and recorders without using the battery/transformer housing. Response is shaped for wide-range performance in the lavalier chest position.

Frequency Response: 70-16,000 Hz
Impedance: 150 ohms
Output: -56 dB
Element: Condenser (electret)
Operating Voltage: 1.1-1.8V Battery: Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Case: Steel & high-impact plastic
Finish: Fawn beige micromatte
Size: Mike: 10.3mm (1/8") diameter, 6.4mm (1/4") deep; electronics: 38.1mm (1½") long, 13.5mm (5/8") wide, 9.5mm (¾") deep
Weight: Mike: 2.8 grams (1 oz) Electronics: 7.1 gram (¼ oz)
Included: 385 windscreen, belt clip, tie clip adapter, metal carrying case
Optional Accessories: Shown on pages 22 & 23

Created especially for TV, the small, lightweight 649B is the most popular dynamic lavalier available. The turned aluminum case and nested mechanical parts offer traditional E-V ruggedness. Frequency response is tailored for balanced performance in the lavalier chest position. The 649B is at home wherever concealment, mobility, and hands-free movement is needed.

Frequency Response: 80-10,000 Hz
Impedance: 150 ohms
Output: -61 dB
Diaphragm: EV Acoustalloy®
Case: Aluminum
Finish: Non-reflecting gray
Size: 5.7mm (2½") long, 19mm (¾") diameter
Weight: 31 grams (1.1 oz)
Cable: 9.14 m (30')
Included: Neck cord assembly, belt clip for cable and protective pouch
Optional Accessories: Shown on pages 22 & 23
667A
Programmable-Response
Dynamic Variable-D°
Cardioid

POLAR RESPONSE CURVE
Sound is 5 Centibels Per Division

RE51
Headband Mount Miniature
Dynamic Omnidirectional
Created for boom-mounting in the broadcast/record industry, the 667 A has an adjustable integral passive equalizer for 6 different response curves to help overcome acoustical problems and background noise or for special effects. The 667 A's high output level (-51 dB) is good for long-reach applications. Variable-D design frees it of accented bass when used close. A special shock mount minimizes mechanical noises, and the built-in windscreens sharply reduces noise produced as the mike is "panned." Very low sensitivity to induced hum permits the 667 A to be used close to lights and AC lines.

Frequency Response: 40-10,000 Hz
Impedance: 50, 150, 250 ohms, selectable
Output: 51 dB on 250 and 150 ohms; 52 dB on 50 ohms

Diaphragm: EV Acoustalloy
Case: Aluminum
Finish: Non-reflecting gray
Size: (with shock mount) 244 mm (9 3/8") long; 235 mm (9 1/4") high; 165 mm (6 1/2") wide
Weight: 68 kg (1 lb, 8 oz)
Cable: 61 cm (2') Switchcraft A3M conn.

For sportscasters, lecturers, wherever hands-free use is required. Always a constant distance from the speaker's mouth, RE-51 provides constant level and very high relative level over background noise. Sound quality is comparable to high quality hand-held microphones, such as the 635A. May be used with the supplied headband or attached to eyeglasses. Preamp/equalizer box has cough button, on/off switch, space for two AA cells to power it, battery test, standard A3M-type 3-pin connector, and belt clip.

Frequency Response: 60-10,000 Hz
Impedance: 50-250 ohms
Output: 54 dB
Case: Mike: Delrin; Preamp: steel
Finish: Mike: non-reflecting black; Preamp: fawn beige micomatte
Size: Mike tube: 5 mm (1/4") diameter; 89 mm (3 1/2") long; head assembly: 13 mm (1") dia.; 25 mm (1") long. Preamp: 82 mm (3 3/4") long; 66 mm (2 1/2") deep; 31 mm (1 1/4") wide
Weight: 263 grams (9 3/8 oz) complete, less batteries; 51 grams (1 8 oz) without preamp
Cable: 4.6 m (15') Switchcraft A3F conn.

Included: Headband, carrying case
Optional Accessories: Shown on pages 22 & 23
Cables
A) 520 - 4.6 m (15') 2-cond., shielded, gray vinyl jacketed, with Switchcraft A3F connector at one end and ¼" phone plug at the other end.
B) 521 - 7.6 m (25') 2-cond., shielded, brown rubber jacketed, with Switchcraft A3F connector at one end and A3M at the other end.

Shock Mounts
C) 304 - Shock mount for SE15A "short electronics with CO15E, CS15E or CH15E "System C" condenser microphone heads. Will also work with microphones with 5/8 or 1-inch barrels. Attaches directly to boom head, fishpole, or floor stand. Includes 1/4"-27 thread stand adapter.
D) 307 - Shock mount adapts any microphone with 5/8" diameter cylindrical shank for boom or stand use. Accommodates 314 and or 368 windscreens.

Stand Clamps and Mounts
F) 301 - Stand clamp for 1" to 1½" diameter microphones. Allows snap-out use. Black.
301A - Same as 301 except gray. (Not shown.)
310A - Same as 310 except gray. (Not shown.)
310B - Same as 310 except beige. (Not shown.)
312A - Same as 312 except gray. (Not shown.)
312B - Same as 312 except beige. (Not shown.)
J) 313A - Stand clamp designed to provide shock mount isolation for any microphone having a ½" barrel diameter. Gray
L) 342 - Security stud-mount adapter. Converts studless mikes with ¼" cylindrical barrel and A3-type connector to stud type with on/off switch. Allen set screw holds mike in position.

Desk Stands
M) 400 - Desk stand in non-reflecting gray with foam rubber base pads; for most microphones whether clamp mounted or fitted with switch stud.
N) 422 - Low profile desk stand with rubber shock mount, accepts E-V stand clamps into which mike is placed.
P) 423A - Desk stand with 5½" diameter base and 5" riser. ¼"-27 mounting thread. Rests on rubber feet. Non-reflecting gray.
Q) 428 - Desk stand. 5½" diameter base with grip-to-talk switch in riser. Lever type DPDT switch controls mike and relay. Momentary contact or locks in "talk" position. Non-reflecting gray 7" high.
R) 411 - Floor-mount "mike mouse" for medium and long-distance pickup on stage, desk top, wall, ceiling, etc. Recommended for use with RE10, RE15 and CS15P mikes. Uses reflected sound wave for increased gain before feedback. Greatly reduces interference resulting from floor reflections.
Electrical Accessories

A) AC24 - Phantom power supply AC24M provides remote power for two microphones from standard 117 VAC power. Expandable in multiples of four to accept up to 10 microphones by using AC24S expander modules. Supplies a maximum of 72 mA at 24 VDC.

B) BS9 - Remote battery power supply. To power any E-V professional condenser microphone. Inserts in microphone between microphone and mixer. For balanced or unbalanced Lo-Z (150 ohms) inputs. Uses two standard 9V batteries (not supplied).

C) 381 - Switch/connector and cable. SPST switch built into microphone. Converts microphones with no switch into switch type. Fits microphones with A3M-type professional connector. 15' cable replaces cable supplied with microphone.

D) 513A - Low-frequency cutoff filter for use with Lo-Z microphones. Reduces unwanted noise and reverberation components below 100 Hz. Professional A3M and A3F-type connectors.

E) 502CP - Transformer for matching low-impedance microphones to high-impedance amp inputs. Input is A3F-type connector; 1/4" phone plug output connects directly to amp. Matching A3M-type cable connector furnished.

F) 502C - Same as 502CP but with MC1M output connector.

G) 380 - Attenuator for use in microphone line. Reduces signal 10 dB, does not affect response. Prevents overloading of electronics with extremely high-level sound input. Mates with A3-type professional connectors. (For other value attenuators, send for E-V Technical Bulletin No. 19).

H) CA10 - For any E-V "System C" condenser head. Reduces output level by approximately 10 dB. For use when extremely high sound pressure levels may cause distortion in the microphone electronics.

Windscreens

Specially formulated Acoustifoam™ cellular material is transparent to normal sounds, but stops sudden air blasts as caused by wind, movement of the mike, and voice "P-pops". Unaffected by temperature extremes, water resistant, protects against mechanical shock and pickup of dust, magnetic particles.

J) 343 - For CL42 and DL42 microphones.

K) 368 - For 667A. Also fits over 1/4" diameter microphones in 307 shock mount and over RE20 in 309 shock mount for added wind protection.

L) 314 - For RE10 and RE15 microphones. Zippered for easy installation. Rear portion can be used on RE11 and RE16 for wind protection. For additional protection use 307 shock mount and 368 windscreen.

M) 314E - For 635A. Can be used for pop protection only, on front of RE10 and RE15.

N) 315A - For CS15P microphone.

P) 355A - For DO54 and RE55 microphones.

Q) 376 - For DS35 and pop filter for RE11 and RE16 microphones.

R) 385 - For CO90, CO90E and CO85 microphones.

351 - For DO56 microphone. (Not shown.)
Sentry V Monitor

Sentry studio monitors have a heritage that is almost 25 years old. Beginning with the Sentry I and II, this series has represented Electro-Voice’s effort to bring truly accurate sound into the studio. The Sentry V is one example of the technological advancements that have been achieved in speaker design in this period of time.

The basic requirements of a monitor are accurate sound and high efficiency. Accuracy to us simply means “what goes in, comes out.” A frequency response curve that is uniform over the audible range and dispersion that is symmetrical and unchanging across the usable frequency spectrum allows the user to judge the quality of the input signal without making mental adjustments for speaker deficiencies.

Electro-Voice has achieved this level of performance in the Sentry V by using the ST350A tweeter, a neckless radial horn design whose 6-dB-down coverage angle is a full 120° over its entire operating range. This is particularly beneficial in a broadcast environment where stereo-pair listening is often a luxury, and monitor positioning depends more on available space than engineering requirements. The tweeter in the Sentry V can also be rotated 90° for horizontal system placement.

The wide dynamic ranges now being recorded require not only good performance at low levels, but also the ability to “take it” during the high level peaks. The Sentry V meets this challenge with a high-efficiency ten-inch woofer. In addition to its high sensitivity (96 dB, 1 watt, 1 meter), the woofer provides extended, boom-free bass response in an enclosure of modest size (3 dB down at 45 Hz). This performance is a direct product of an integrated driver/enclosure design effort where Electro-Voice engineers applied to the computer the theories of Australian researcher A. N. Thiele. Thiele described the construction of optimized vented systems. In contrast to the old cut-and-try “bass reflex” design, the lowest octave of an optimized system is actually reproduced by the vent or port, freeing the woofer for clean reproduction of upper bass and midrange. The high efficiency of the Sentry V is particularly important in the broadcast environment where mammoth power amplifiers are the exception rather than the rule. Air checks made with relatively low-powered amplifiers still can be judged objectively by the sound engineer when a speaker like the Sentry V is used.

SEQ Equalizer

The optional SEQ equalizer extends the low-frequency 3-dB-down point of the Sentry V from 45 Hz to 32 Hz. Such extended low-frequency response is uncommon in the studio but is nonetheless useful where a true indication of low-frequency program and noise is desired. The SEQ is a two-channel active device, most commonly inserted in front of the monitor power amplifier. The boost of the equalizer, restricted to the range below 100 Hz, complements the low-frequency response of the Sentry V after the supplied vent cover is installed. The reduced vent area appropriately lowers the enclosure tuning frequency to complement the SEQ’s peak boost of 6 dB at 32 Hz.

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Warranty (Limited)

Professional Microphones (Limited)

Electro-Voice Professional Broadcast, Recording, and Sound Reinforcement Microphones are guaranteed unconditionally against malfunction from any cause for a period of two years from date of original purchase. Also, these microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and materials. (Any active electronics incorporated in a microphone are guaranteed for three years from date of original purchase against such malfunction.) If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, cable, cable connectors, or switches. Defect guarantee does not cover malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

Sentry Monitor (Limited)

Electro-Voice Sentry Loudspeakers and accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or appearance items or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.